



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,101	10/09/2003	Laurent Dumortier	0540-1016	8126
466	7590	09/20/2007		
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER GUIDOTTI, LAURA COLE	
			ART UNIT 1744	PAPER NUMBER
			MAIL DATE 09/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/681,101	<b>Applicant(s)</b> DUMORTIER ET AL.	
	<b>Examiner</b> Laura C. Guidotti	<b>Art Unit</b> 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 6-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 6-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Topiarz, DE 199 49 071 A1 (see English translation) in view of Lane, US 5,924,204 .

Topiarz discloses the claimed invention including a tool comprising means for causing vibratory alternating movement (the vibrator unit or transducer, 9) and a tool secured to the vibrator unit (5), the means for causing vibratory alternating movement comprises a body (the vibrator unit has a housing, see Figure 1) including a motor (7, 9; Page 10 of English translation, Lines 2-7) and a mandrel (4), the tool comprises a shaft (upper rear portion of "5") adapted to be mounted in the mandrel (see Figures) and a

Art Unit: 1744

head (lower front portion of "5") that inherently has a hardness. Topiarz does not disclose that the head is made of a non-abrasive material selected from polyetheretherketones, polyoxymethylenes, polyetherimides, or epoxy resins.

Lane teaches a scraper in which the blade is made of epoxy resins because it is a hard and durable material having a hardness capable of cutting off chips but not too hard so as to give rise to scratches (Column 4 Lines 61-64; Column 5 Line 66 to Column 6 Line 5, Column 6 Lines 15-22 and Lines 44-49).

It would have been obvious for one of ordinary skill in the art to modify the scraping blade of Topiarz to be made of epoxy resins, as Lane teaches, in order to provide a hard and durable non-metal blade that is durable and hard.

2. Claims 1, 6-8, and 11-13, 15-16, 18, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce et al., US 5,353,465 in view of JP 05-321189 (see English translation of Abstract and Detailed Description).

Pierce et al. disclose the claimed invention including a tool comprising a vibratory means for causing vibratory alternating movement (continuous spurts of compressed air and drive shaft 16; Column 3 Line 55 to Column 4 Line 7) and a tool secured to these means (50), the vibratory alternating movement includes a body (or housing as it is housed in the operating rod, 12, 15) including a pneumatic motor (Column 3 Lines 1-3) and a mandrel (57) adapted to receive the tool (see Figure 2), the tool has a shaft (58) adapted to be mounted in the mandrel (see Figure 4) and a head (54) provided to be in contact with the surface that is to be cleaned. Regarding claims 8 and 11, the head is beveled (at 54, see Figure 2) at an angle of approximately between or at 30 or 45 or 60

degrees (as shown in Figure 2; capable of being sharpened to any desired degree, Column 3 Line 46). Regarding claims 13, the tool (50) is the vibratory part with a pneumatic motor (the pneumatic motor is the entire system of motion provided by the continuous spurts of compressed air and drive shaft 16; Column 3 Line 55 to Column 4 Line 7) and a mandrel (shown best in Figure 4), and a head (54) provided to be in contact with the surface to be cleaned. Regarding claims 20-21, the head inherently has a hardness, and the vibratory means and tool are "sized" to be capable of being carried, the vibratory means having a connection for a source of compressed air (Column 3 Lines 18-22). Pierce et al. does not disclose that the head is made of a non-abrasive material selected from polyetheretherketones, polyoxymethylenes, polyetherimides, or epoxy resins.

JP 05-321189 teaches a doctor blade that is made of polyetheretherketone (PEEK) loaded with 30% glass fibers or carbon (graphite) fibers (see English translation of Abstract) because the material can be used for scraping a surface without damaging the surface that is scraping and additionally has improved resistance to wear (see English translation of Abstract).

It would have been obvious for one of ordinary skill in the art to modify the scraping blade of Pierce et al. to be made of polyetheretherketone (PEEK) that may be loaded with 30% glass fibers, as JP 05-321189 teaches, in order to provide a beneficial scraping material that is capable of not damaging the surface that it is scraping and has improved resistance to wear.

Art Unit: 1744

3. Claims 3, 14, 17, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce et al., US 5,353,465 and JP 05-321189 (see English translation of Abstract and Detailed Description).

Pierce et al. and JP 05-321189 disclose all elements above, however do not disclose a specific operating frequency, particularly that the pneumatic motor has a vibratory frequency of 120 Hz.

It would have been obvious for one of ordinary skill in the art to provide the scraping device of Pierce et al. and JP 05-321189 with an operating frequency of 120 Hz so that the reciprocating vibrating motion is continuous and successful at removing debris and further it would have been obvious to use 120 Hz since applicant has not disclosed an advantage, is used for a particular purpose, or solves a stated problem. Therefore, one would have expected Pierce et al. and JP 05-321189 to perform equally well at 120Hz.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce et al., US 5,353,465, in view of JP 05-321189 (see English translation of Abstract and Detailed Description) and Sandt et al., US 4,137,588.

Pierce et al. and JP 05-321189 disclose all elements above. Pierce et al. further includes flexible tubing (24) and a housing (22), however does not include a container with a stock of tools.

Sandt et al. disclose the claimed invention including a tool comprising means for causing vibratory alternating movement (gear train driven by a motor, causes vibratory movement in an oscillatory manner, Column 4 Lines 6-41) and a tool secured to means

Art Unit: 1744

(any one of the tools as shown in Figures 5-10). The means that cause the vibratory movement comprise a body (6) including a motor (14) and a mandrel (19 or 20) adapted to receive the tool (via tongues 21 or pins 27; Column 3 Lines 27-31). The device has numerous tools that comprise shafts (33) and there is a container (1) to store interchangeable tools (Column 2 Lines 44-47).

It would have been obvious for one of ordinary skill in the art to modify the scraping blade of Pierce et al. to be made of polyetheretherketone (PEEK) that may be loaded with 30% glass fibers, as JP 05-321189 teaches, in order to provide a beneficial scraping material that is capable of not damaging the surface that it is scraping and has improved resistance to wear and it would have been obvious for one of ordinary skill in the art to modify the device of Pierce et al. and JP 05-321189 to further include a container with a stock of tools, as Sandt et al. teach, so that the device of Pierce JP 05-321189 is conveniently stored and replacement tools are stored there as well.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce et al., USPN 5,353,465, JP 05-321189 (see English translation of Abstract and Detailed Description), and Sandt et al., US 4,137,588 as applied to claim 9, in view of Topiarz, DE 19949071 (see also English translation of Abstract).

Pierce et al., JP 05-321189, Sandt et al., and Topiarz disclose all elements above. Topiarz further includes a suction system with a venturi connected to an air source (14).

It would have been obvious for the system in a container of Pierce et al., JP 05-321189, and Sandt et al. to further include a suction system having a venturi, as Topiarz teaches, so that excess debris or particulate is removed.

***Response to Arguments***

6. Applicant's arguments filed 28 June 2007 have been fully considered but they are not persuasive.

The Applicant contends that the blade of Lane does not include a blade having epoxy resin at a distal end, however Lane teaches numerous embodiments, and as described in Figure 5, blade 50 may as a whole (including at a distal end) be manufactured from an epoxy resin.

Again, JP '189 teaches a doctor blade that is made of polyetheretherketone (PEEK) loaded with 30% glass fibers or carbon (graphite) fibers (see English translation of Abstract) because the material can be used for scraping a surface without damaging the surface that is scraping and additionally has improved resistance to wear (see English translation of Abstract). In the combination of Pierce and JP '189, the blade material of Pierce is substituted for a known material that JP '189 teaches, and that the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. The predictable results in this situation, being a blade that is capable of not damaging the surface that it is scraping and has improved resistance to wear.

Regarding the claimed mastic ("a hardness for removing aircraft-fuel resistant aircraft mastic", "the hardness sufficient to cut off chips of the aircraft mastic from



Art Unit: 1744

joints...", "the mastic being resistant to aircraft fuel and polymerized by heating with infrared radiation", "the mastic being removed...a joint defined by plural plate meeting at a non-planar angle"), and the claimed materials of construction of the aircraft tanks ("constructed of aluminum alloy coated with a protective primer") no weight has been given to the limitations. As recited in MPEP 2115, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, ***"[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."*** In re Young, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Additionally in response to applicant's argument that the mastic is removed from specific locations, a recitation of the intended use of the claimed invention must result in *a structural difference* between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The Examiner reminds the Applicant that the claimed invention is "a device" and furthermore as recited in MPEP 2114, "While features of an apparatus may be recited either structurally or functionally, *claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function.* In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)".

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

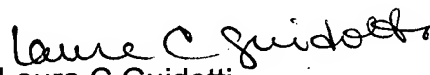
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Laura C Guidotti  
Patent Examiner  
Art Unit 1744

lcg